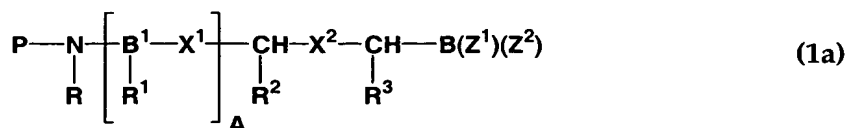


What is claimed is:

1. A compound having the formula (1a):



or a pharmaceutically acceptable salt thereof; wherein

P is hydrogen or an amino group protecting moiety;

A is zero;

X² is -C(O)-NH-;

R is hydrogen or C₁₋₈ alkyl;

R² is -CH₂-R⁵;

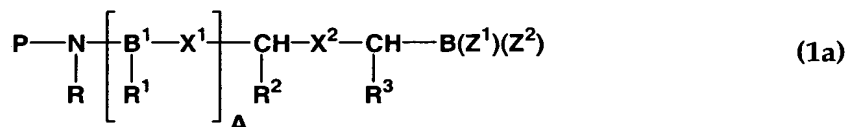
R³ is C₄ alkyl;

R⁵ is aryl, cycloalkyl, or a 5-10 membered saturated, partially unsaturated or aromatic heterocycle, wherein R⁵ is optionally substituted by one or two substituents independently selected from the group consisting of C₁₋₆ alkyl, C₃₋₈ cycloalkyl, C₁₋₆alkyl(C₃₋₈)cycloalkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, cyano, amino, C₁₋₆ alkylamino, di(C₁₋₆)alkylamino, benzylamino, dibenzylamino, nitro, carboxy, carbo(C₁₋₆)alkoxy, trifluoromethyl, halogen, C₁₋₆ alkoxy, C₆₋₁₀ aryl, C₆₋₁₀ aryl(C₁₋₆)alkyl, C₆₋₁₀ aryl(C₁₋₆)alkoxy, hydroxy, C₁₋₆ alkylthio, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylsulfonyl, C₆₋₁₀ arylthio, C₆₋₁₀ arylsulfinyl, C₆₋₁₀ arylsulfonyl, C₁₋₆ alkyl(C₆₋₁₀)aryl, and halo(C₆₋₁₀)aryl;

Z¹ and Z² are each independently one of alkyl, hydroxy, alkoxy, or aryloxy, or together Z¹ and Z² form a moiety derived from a dihydroxy compound having at least two hydroxy groups separated by at least two connecting atoms in a chain or ring, said chain or ring comprising carbon atoms and, optionally, a heteroatom or heteroatoms which can be N, S, or O.

2. The compound of claim 1, wherein R is hydrogen.

3. The compound of claim 1, wherein R^3 is isobutyl.
4. The compound of claim 1, wherein P is $R^7-C(O)-$ or R^7-SO_2- , where R^7 is one of alkyl, cycloalkyl, aryl, aralkyl, heteroaryl, heteroarylalkyl, or a saturated or partially unsaturated heterocycle, wherein the ring portion of R^7 is optionally substituted.
5. The compound of claim 1, wherein P is $R^7-NH-C(O)-$ or $R^7-O-C(O)-$, where R^7 is one of alkyl, cycloalkyl, aryl, aralkyl, heteroaryl, or heteroarylalkyl, wherein the ring portion of R^7 is optionally substituted.
6. The compound of claim 4 or 5, wherein R^7 is an optionally substituted aryl or aralkyl.
7. The compound of claim 4 or 5, wherein R^7 is an optionally substituted heteroaryl or heteroaralkyl.
8. The compound of claim 1, wherein R^5 is an optionally substituted C_{6-10} aryl.
9. The compound of claim 1, wherein R^5 is phenyl.
10. The compound of claim 9, wherein Z^1 and Z^2 are both hydroxy.
11. The compound of claim 9, wherein Z^1 and Z^2 together form a moiety derived from a dihydroxy compound having at least two hydroxy groups separated by at least two connecting atoms in a chain or ring, said chain or ring comprising carbon atoms and, optionally a heteroatom or heteroatoms independently selected from the group consisting of N, S, and O.
12. A compound having the formula (1a):



or a pharmaceutically acceptable salt thereof; wherein

P is R⁷-C(O)- or R⁷-SO₂-, and R⁷ is an optionally substituted aryl or aralkyl;

A is zero;

X² is -C(O)-NH-;

R is hydrogen;

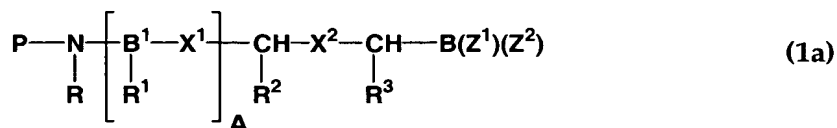
R² is benzyl;

R³ is C₄ alkyl; and

Z¹ and Z² are independently one of hydroxy, alkoxy, or aryloxy, or together Z¹ and Z² form a moiety derived from a dihydroxy compound having at least two hydroxy groups separated by at least two connecting atoms in a chain or ring, said chain or ring comprising carbon atoms and, optionally, a heteroatom or heteroatoms which can be N, S, or O.

13. The compound of claim 12, wherein R⁷ is phenyl.

14. A composition, which upon combination with a physiologically acceptable saline carrier forms a solution suitable for intravenous, intramuscular or subcutaneous administration to a patient, said solution comprising a compound of the formula (1a):



or a pharmaceutically acceptable salt thereof; wherein

P is hydrogen or an amino group protecting moiety;

A is zero;

X² is -C(O)-NH-;

R is hydrogen or C₁₋₈ alkyl;

R² is -CH₂-R⁵;

R³ is C₄ alkyl;

R⁵ is aryl, cycloalkyl, or a 5-10 membered saturated, partially unsaturated or aromatic heterocycle, wherein R⁵ is optionally substituted by one or two substituents independently selected from the group consisting of C₁₋₆ alkyl, C₃₋₈ cycloalkyl, C₁₋₆alkyl(C₃₋₈)cycloalkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, cyano, amino, C₁₋₆ alkylamino, di(C₁₋₆)alkylamino, benzylamino, dibenzylamino, nitro, carboxy, carbo(C₁₋₆)alkoxy, trifluoromethyl, halogen, C₁₋₆ alkoxy, C₆₋₁₀ aryl, C₆₋₁₀ aryl(C₁₋₆)alkyl, C₆₋₁₀ aryl(C₁₋₆)alkoxy, hydroxy, C₁₋₆ alkylthio, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylsulfonyl, C₆₋₁₀ arylthio, C₆₋₁₀ arylsulfinyl, C₆₋₁₀ arylsulfonyl, C₁₋₆ alkyl(C₆₋₁₀)aryl, and halo(C₆₋₁₀)aryl;

Z¹ and Z² are both hydroxy.

15. The composition of claim 14, wherein R is hydrogen.

16. The composition of claim 14, wherein R³ is isobutyl.

17. The composition of claim 14, wherein P is R⁷-C(O)- or R⁷-SO₂-, where R⁷ is one of alkyl, cycloalkyl, aryl, aralkyl, heteroaryl, heteroarylalkyl, or a saturated or partially unsaturated heterocycle, wherein the ring portion of R⁷ is optionally substituted.

18. The composition of claim 14, wherein P is R⁷-NH-C(O)- or R⁷-O-C(O)-, where R⁷ is one of alkyl, cycloalkyl, aryl, aralkyl, heteroaryl, or heteroarylalkyl, wherein the ring portion of R⁷ is optionally substituted.

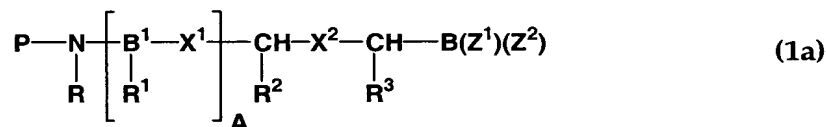
19. The composition of claim 17 or 18, wherein R^7 is an optionally substituted aryl or aralkyl.

20. The composition of claim 17 or 18, wherein R^7 is an optionally substituted heteroaryl or heteroaralkyl.

21. The composition of claim 14, wherein R^5 is an optionally substituted C_{6-10} aryl.

22. The composition of claim 14, wherein R^5 is phenyl.

23. A composition, which upon combination with a physiologically acceptable saline carrier forms a solution suitable for intravenous, intramuscular or subcutaneous administration to a patient, said solution comprising a compound of the formula (1a):



or a pharmaceutically acceptable salt thereof; wherein

P is $R^7\text{-C(O)-}$ or $R^7\text{-SO}_2\text{-}$, and R^7 is an optionally substituted aryl or aralkyl;

A is zero;

X^2 is -C(O)-NH- ;

R is hydrogen;

R^2 is benzyl;

R^3 is C_4 alkyl; and

Z^1 and Z^2 are both hydroxy.

24. The composition of claim 23, wherein R^7 is phenyl.